

What Is the LRAD Sound Cannon?



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Filed to: What Is

- LRAD
- Sound Cannon
- LRAD Sound Cannon
- Weapon
- Top

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Protests in Ferguson, Missouri have [reached a terrifying fever pitch](#), and the [ludicrously armed Ferguson Police Department](#) is bringing all its crowd-control weapons to bear, [tear gas](#), stun grenades, rubber bullets, you name it. One of the more controversial of those is the LRAD Sound Cannon. So what's the harm in a little noise? Well, a lot, actually.

The LRAD Sound Cannon is an acoustic weapon and communication device...

Developed by the [LRAD corporation](#) to broadcast messages and pain-inducing "deterrent" tones over long distances, LRAD devices come in various iterations that produce varying degrees of sound. They can be mounted to a vehicle or handheld. The device produces a sound that can be

directed in a beam up to 30-degree wide, and the military-grade [LRAD 2000X](#) can transmit voice commands at up to 162dB up to 5.5 miles away.

...that blasts "non-lethal" sound waves...

The LRAD corporation says that anyone within a 100 meters of the device's sound path will experience extreme pain. The version generally utilized by police department (the [LRAD 500X](#)) is designed to communicate at up to 2000 meters during ideal conditions. In a typical outdoor environment, the device can be heard for 650 meters. The 500x is also capable of short bursts of directed sound [that cause severe headaches](#) in anyone within a 300-meter range. Anyone within 15 meters of the device's audio path can experience permanent hearing loss. LRAD claims the device is not a weapon, but a "directed-sound communication device."

...and keep birds from hitting planes...

LRAD systems are deployed at airports to sonically deter birds from residing in the paths of aircrafts. The bio-acoustic deterrent helps minimize bird strikes like the one that caused the ditching of Flight 1549 in the Hudson river. In this context, the LRAD broadcasts tones and predator calls that frighten birds away.

...but has also been used against activists...

The LRAD device has been used on several occasions against activists in the US. The first documented use was in Pittsburgh during the G20 summit in 2009. The Pittsburgh police used it again following the Superbowl in 2011. The LRAD has reportedly been used against Occupy protestors in Oakland and recently against [Occupy Wall Street protestors](#) in Zuccotti Park.

...and has potentially long-term side effects.

Use of the device has come under fire because of the potential for permanent hearing loss. Human discomfort starts when a sound hits 120dB, well below the LRAD's threshold. Permanent hearing loss begins at 130dB, and if the device is turned up to 140dB, anyone within its path would not only suffer hearing loss, they could potentially lose their balance and be unable to move out of the path of the audio. The device is also entirely operator dependent, which could lead to serious ramifications if the officer in charge doesn't have sufficient training.